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HRS

	S	S^2
Groundwater Route Score (S_{gw})	66.67	4444.89
Surface Water Route Score (S_{sw})	9.23	85.19
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		4530.08
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		67.31
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		38.91

WORKSHEET FOR COMPUTING S_M

PRO

	S	S^2
Groundwater Route Score (S_{gw})	80.77	6523.79
Surface Water Route Score (S_{sw})	12.31	151.54
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		6675.33
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		81.70
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		47.23

WORKSHEET FOR COMPUTING S_M

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Ground Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	HRS	Max. Score	PRO
1 Observed Release	0 45	1	(0)	45	[45]
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					
Depth to Aquifer of Concern	0 1 2 (3)	2	(6)	6	
Net Precipitation	0 1 (2) 3	1	(2)	3	
Permeability of the Unsaturated Zone	0 1 (2) 3	1	(2)	3	
Physical State	0 1 2 (3)	1	(3)	3	
Total Route Characteristics Score			(13)	15	
3 Containment	0 1 2 (3)	1	(3)	3	
4 Waste Characteristics					
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	(18)	18	[18]
Hazardous Waste Quantity	0 1 (2) [3] 4 5 6 7 8	1	(2)	8	[3]
Total Waste Characteristics Score			(20)	26	[21]
5 Targets					
Ground Water Use	0 1 2 [3]	3	(9)	9	[9]
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 [40]	1	(40)	40	[40]
Total Targets Score			(49)	49	[49]
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			(38,220)	57,330	[46,305]
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = (66.67)			[80.77]

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Surface Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	HRS	Max. Score	PRO
1 Observed Release	0 45	1	(45)	45	[45]
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	
4 Waste Characteristics					
Toxicity/Persistence	0 3 6 9 12 15 [18]	1	(18)	18	[18]
Hazardous Waste Quantity	0 1 2 3 [4] 5 6 7 8	1	(4)	8	[4]
Total Waste Characteristics Score			(22)	26	[22]
5 Targets					
Surface Water Use	0 1 [2] 3	3	(6)	9	[6]
Distance to a Sensitive Environment	(0) [1] 2 3	2	(0)	6	[2]
Population Served/Distance to Water Intake Downstream	[0] 4 6 8 10 12 16 18 20 24 30 32 35 40	1	(0)	40	[0]
Total Targets Score			(6)	55	[8]
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			(5940)	64,350	[7920]
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	(9.23)		[12.31]

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Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	HRS	Max. Score	PRO
1 Observed Release	(0) 45	1	(0)	45	(0)
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = (0)			(0)

SITE NAME:	Photocircuits Division/Kollmorgen Corporation
SITE LOCATION:	31 Sea Cliff Avenue City of Glen Cove, Nassau County, Long Island, New York
EPA SITE ID NUMBER:	NYD096920483
HAZARD RANKING SCORE:	S_M=37.45 (S_{gw}=64.03, S_{sw}=9.92, S_a=0) S_{FE}=0, S_{DC}=0

SITE DESCRIPTION

The Photocircuits Division/Kollmorgen Corporation site (Photocircuits), located at 31 Sea Cliff Avenue, Glen Cove, Long Island, produces printed circuit boards for the electronics industry. Circuit boards are first metal-plated with either copper, tin, nickel, or gold. Printed circuits are then etched on the boards with ammonia-base solutions and solder baths containing fluoroborates and fluoroboric acid. Trichloroethane and methylene chloride are used as cleaning solutions during formation of the printed circuits.

Past waste disposal practices at this site may be responsible for closure of the City of Glen Cove Carney Street well field. Between 1977 and 1981, chromium hydroxide sludges were stored on site in a clay-lined lagoon prior to off-site disposal. Use of this lagoon has since been discontinued. Further, unauthorized discharges of liquid wastes into the storm drain underlying the Photocircuits parking lot has been acknowledged by company officials. Surface water contamination of Cedar Swamp Creek and groundwater contamination in the vicinity of the site has been documented.

City of Glen Cove Carney Street wellfield, which includes three of their ten public supply wells, was closed in 1977 due to trichloroethylene (TCE) and tetrachloroethylene contamination. The Nassau County Health Department initiated an investigation into the source of contamination. The investigation included ten samples from various locations in the vicinity of Carney Street, including waste discharges, drains, groundwater and surface water from Cedar Swamp Creek. From these samples it was concluded that contamination was due to past waste discharges in an industrial area 1,000 feet south of the wellfield; however, the actual industry responsible was never identified. Two industries, Photocircuits Corporation and Slater Electric Company, were identified as two corporations in the area using solvents of the general type detected in the wells.

An Expanded Site Inspection conducted at the Photocircuits site should focus primarily upon the threat to the public drinking water supply for City of Glen Cove.